

What is claimed is:

1. A hydrodynamic bearing device comprising:

an axial member having a first thrust surface; and

5 a second thrust surface opposed to the first thrust surface of the axial member in an axial direction, a dynamic pressure generating groove area being formed in one of the first thrust surface and the second thrust surface, the dynamic pressure generating groove area having a

10 plurality of dynamic pressure generating grooves, an action of dynamic pressure of a fluid generating a pressure in a thrust bearing clearance between the first thrust surface and the second thrust surface to support the axial member in the axial direction in a non-contact manner,

15 wherein the dynamic pressure generating groove area is formed by press working, and a difference in height obtained by subtracting a height of an outer peripheral edge of a surface of the dynamic groove area from that of an inner peripheral edge thereof is between or equal to 0

20 and $+2\mu\text{m}$.

2. The hydrodynamic bearing device according to claim

1, wherein the axial member is provided with a flange part, and the first thrust surface is provided in an end face of

25 the flange part opposed to the second thrust surface.

3. The hydrodynamic bearing device according to claim 1, wherein a surface roughness of the dynamic pressure generating groove area is less than, or equal to, $0.6R_a$.

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4. The hydrodynamic bearing device according to claim 3, wherein at least a ridge of the dynamic pressure generating groove area is subjected to finish processing.

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5. The hydrodynamic bearing device according to claim 1, wherein the dynamic pressure generating groove area is formed by pressing a material, and the material has such a structure that a part corresponding to the dynamic pressure generating groove area tapers down to an inner radial side.

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6. The hydrodynamic bearing device according to one of claims 1 to 5, further comprising a housing, one end of which is provided with an opening, and the other end of which is sealed with a thrust plate,

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wherein the dynamic pressure generating groove area is formed in an end face of the thrust plate.

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7. The hydrodynamic bearing device according to claim 2, wherein the dynamic pressure generating groove area is formed in the first thrust surface of the flange part.